

ABSTRACT OF THE DISCLOSURE

The present invention provides a digital filter which is used for a transmitter receiver in a mobile communication system and is capable of reducing the circuit scale.

The digital filter divides digital data comprising a plurality of channels into high-order and low-order bits. The digital filter performs a filtering operation at a rate equivalent to a digital data input rate doubled and further multiplied by the number of channels in a time-sharing manner. The digital filter synthesizes filtering output results of data divided from the same digital data to generate a filtering output for each channel, enabling to reduce the circuit scale of the filtering operation section and the entire circuit scale.